

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. – 16. (Cancelled)

17. (Currently Amended) A bonded magnet manufactured by mixing comprising:

a magnetic powder having an average particle size in the range of 1 to 50 μm ;
and

with a binding resin mixed with the magnetic powder,

wherein ~~and then subjecting the mixture to compaction molding, in which the~~
magnetic powder is composed of a R-TM-B based alloy having at least one element selected from Ti, ~~CR Cr~~, Nb, Mo, Hf, W, Mn, Zr and Dy (where R is at least one kind of rare-earth element ~~excepting Dy~~ selected from the group consisting of Nd and Pr, a ratio of Pr with respect to a total mass of R is in the range of 20% to 60%, and TM is a transition metal mainly containing Fe), ~~the bonded magnet being characterized in that~~
~~when~~

a density of the bonded magnet after compaction molding is $\rho[\text{Mg/m}^3]$,

the maximum magnetic energy product $(\text{BH})_{\max}[\text{kJ/m}^3]$ of the bonded magnet at a room temperature satisfies the relationship represented by the formula of $(\text{BH})_{\max}/\rho^2[\times 10^{-9} \text{Jm}^3/\text{g}^2] \geq 2.40$, and

the intrinsic coercive force H_{cJ} of the bonded magnet at a room temperature is in the range of 400 430 – 750 kA/m.

18. (Original) The bonded magnet as claimed in claim 17, wherein the remanent magnetic flux density $Br[T]$ of the bonded magnet at a room temperature satisfies the relationship represented by the formula of $Br/\rho[x10^{-6}Tm^3/g] \geq 0.125$.

19. (Currently Amended) A bonded magnet comprising:
manufactured by mixing a magnetic powder having an average particle size of 1
to 50 μ m; and

with a binding resin mixed with the magnetic powder,
and then subjecting the mixture to compaction molding, wherein the magnetic
powder being-is composed of an R-TM-B based alloy having at least one element
selected from Ti, Cr, Nb, Mo, Hf, W, Mn, Zr and Dy (where R is at least one kind of rare-
earth element excepting Dy selected from the group consisting of Nd and Pr, a ratio of
Pr with respect to a total mass of R is in the range of 20% to 60%, and TM is a transition
metal mainly containing Fe),

the bonded magnet being characterized in that when the a density of the bonded
magnet after compaction molding is $\rho[Mg/m^3]$,

the remanent magnetic flux density $Br[T]$ of the bonded magnet at a room temperature satisfies the relationship represented by the formula of $Br/\rho[x10^{-6}Tm^3/g] \geq 0.125$, and

the intrinsic coercive force H_{CJ} of the bonded magnet at a room temperature is in the range of 400 430 – 750 kA/m.

20. (Currently Amended) The bonded magnet as claimed in claim 17, wherein the ~~magnetic powder is composed of an R-TM-B based alloy has a composition represented by $R_x(Fe_{1-a}Co_a)_{100-x-y-z}B_yM_z$ (where R is at least one kind of rare-earth element excepting Dy Dy selected from the group consisting of Nd and Pr, a ratio of Pr with respect to a total mass of R is in the range of 20% to 60%, M is at least one kind of element selected from Ti, Cr, Nb, Mo, Hf, W, Mn, Zr and Dy, x is 7.1 – 9.9at%, y is 4.6 – 8.0at%, z is 0.1 – 3.0at%, and a is 0 – 0.30), and~~

the magnetic powder is constituted from a composite structure having a soft magnetic phase and a hard magnetic phase.

21. (Original) The bonded magnet as claimed in claim 17, wherein the compaction molding is carried out under the temperature that the binding resin is melted or softened.

22. (Original) The bonded magnet as claimed in claim 17, wherein the maximum magnetic energy product $(BH)_{max}[kJ/m^3]$ is equal to or greater than 50kJ/m³.

23. (Original) The bonded magnet as claimed in claim 16, wherein the absolute value of the irreversible flux loss (initial flux loss) is equal to or less than 6.2%.

24. – 34. (Cancelled)

35. (Currently Amended) The bonded magnet as claimed in claim 19, wherein the ~~magnetic powder is composed of~~ R-TM-B based ~~an~~ alloy has a composition represented by $R_x(Fe_{1-a}Co_a)_{100-x-y-z}B_yM_z$ (where R is at least one kind of rare-earth element ~~excepting Dy~~ Dy selected from the group consisting of Nd and Pr, a ratio of Pr with respect to a total mass of R is in the range of 20% to 60%, M is at least one kind of element selected from Ti, Cr, Nb, Mo, Hf, W, Mn, Zr and Dy, x is 7.1 – 9.9at%, y is 4.6 – 8.0at%, z is 0.1 – 3.0at%, and a is 0 – 0.300, and

the magnetic powder is constituted from a composite structure having a soft magnetic phase and a hard magnetic phase.

36. (Original) The bonded magnet as claimed in claim 19, wherein the compaction molding is carried out under the temperature that the binding resin is melted or softened.

37. (Original) The bonded magnet as claimed in claim 19, wherein the maximum magnetic energy produce $(BH)_{max}[\text{kJ/m}^3]$ is equal to or greater than 50kJ/m^3 .

38. (Original) The bonded magnet as claimed in claim 17, wherein the absolute value of the irreversible flux loss (initial flux loss) is equal to or less than 6.2%.